## Figure A1. Additional Files. Protein clusters representing distinct innate immunity pathways or distinct cell types released into urine via vascular injury or exfoliation of epithelial cells

Protein clusters representing distinct innate immunity pathways (neutrophil activation and degranulation, complement system activity and coagulation) or distinct cell types released into urine via vascular injury or exfoliation of epithelial surface cells (eryhtrocytes, squamous epithelium of vagina / urethral meatus). Protein clusters resulting from Hierarchical Clustering Analysis of urinary proteomic data from 110 samples using the Pearson correlation metric. The software tool used for the analyses was the Multiple Experiment Viewer (MeV) described in the method section. The parameters used were: selection of Gene and Sample Trees; optimized for Gene Tree Order; Absolute Distance Metric and Complete Linkage Clustering. The clusters depicted in the images below are

**Cluster A**. A cluster enriched for antibacterial and inflammatory proteins released from activated neutrophils (eosinophil cationic protein; myeloperoxidase; lactotransferrin; neutrophil defensin 1; histone H2B; Histone H3.1; cathepsin G; protein S100-A8)

**Cluster B**. A cluster enriched for immune defense proteins released from activated neutrophil granules (chitinase-3-like protein; neutrophil collagenase; neutrophil gelatinase-associated lipocalin; cathelicidin; plastin-2; cytochrom b-245 light chain; myeloblastin; protein S100-A12; protein-arginine deiminase type-4)

Cluster C. A cluster of proteins whose expression is enriched in stratified squamous epithelium (e.g. the vagina): cornulin, cytoskeletal 1 keratin type II, cytoskeletal 4 keratin type II, small proline-rich protein 3; small proline-rich protein 2G, cornifin-B; cellular retinoic acid-binding protein 2

**Cluster D**. A cluster of nineteen proteins derived specifically from the expression in erythrocytes

Cluster E. A cluster of proteins associated with the complement system and coagulation: complement components (C6, C1r, C8 alpha chain, C7, C4 beta chain, C3, C4b-binding protein, factor H, factor B, C8 gamma-chain, C8-beta chain); proteins part of or interacting with the coagulation cascade (inter-alpha-trypsin inhibitor heavy chain H1, inter-alpha-trypsin inhibitor heavy chain H1, fibronectin, prothrombin, heparin cofactor II, alpha-2-antiplasmin, coagulation factor XII, kallistatin; apolipoprotein A-II)

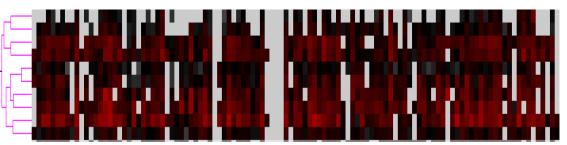
## Figure A1, continued.

**Protein Cluster A**. A cluster enriched for antibacterial and inflammatory proteins released from neutrophils and eosinophils (eosinophil cationic protein; myeloperoxidase; lactotransferrin; neutrophil defensin 1; histone H2B; Histone H3.1; cathepsin G; protein S100-A8)



>sp|P12724|ECP HUMAN Eosinophil cationic protei >sp|P27105|STOM HUMAN Erythrocyte band 7 integr >sp|P20292|AL5AP HUMAN Arachidonate 5-lipoxygen >sp|P05164-3|PERM HUMAN Isoform H7 of Myelopero >sp|P02788|TRFL HUMAN Lactotransferrin OS=Homo >sp|P59665|DEF1 HUMAN Neutrophil defensin 1 OS= >tr|B4DR52|B4DR52 HUMAN Histone H2B OS=Homo sap >sp|P68431|H31 HUMAN Histone H3.1 OS=Homo sapie >sp|P08311|CATG HUMAN Cathepsin G OS=Homo sapie >sp|P05109|S10A8 HUMAN Protein S100-A8 OS=Homo

**Protein cluster B.** A cluster enriched for immune defense proteins released from neutrophil granules upon activation (chitinase-3-like protein; neutrophil collagenase; neutrophil gelatinase-associated lipocalin; cathelicidin; plastin-2; cytochrom b-245 light chain; myeloblastin; protein S100-A12; protein-arginine deiminase type-4)



>sp|P36222|CH3LT HUMAN Chitinase-3-like protein >sp|P22894|MMP8 HUMAN Neutrophil collagenase OS >tr|H9KV70|H9KV70 HUMAN Neutrophil gelatinase-a: >tr|J3KNB4|J3KNB4 HUMAN Cathelicidin antimicrob >sp|Q9UM07|PADI4 HUMAN Protein-arginine deimina: >tr|B4DUA0|B4DUAO HUMAN Plastin-2 OS=Homo sapie: >sp|P13498|CY24A HUMAN Cytochrome b-245 light c: >sp|P24158|PRTN3 HUMAN Myeloblastin OS=Homo sap >sp|P80511|S10AC HUMAN Protein S100-A12 OS=Homo >sp|P29350-4|PTN6 HUMAN Isoform 4 of Tyrosine-p:

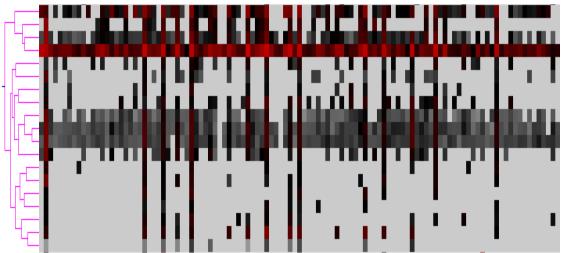
**Protein cluster C**. A cluster of proteins whose expression is enriched in stratified squamous epithelium (e.g. the vagina): cornulin, cytoskeletal 1 keratin type II, cytoskeletal 4 keratin type II, small proline-rich protein 3; small proline-rich protein 2G, cornifin-B; cellular retinoic acid-binding protein 2



>sp| P29373 | RABPZ HUMAN Cellular retinoic acid-b >sp| Q9UBG3 | CRNN HUMAN Cornulin OS=Homo sapiens ">sp| P19013 | K2C4 HUMAN Keratin, type II cytoske >sp| Q9UBC9 | SPRR3 HUMAN Small proline-rich prote >sp| P22528 | SPR1B HUMAN Cornifin-B OS=Homo sapie >sp| Q9BYE4 | SPR2G HUMAN Small proline-rich prote ">sp| P04264 | K2C1 HUMAN Keratin, type II cytoske

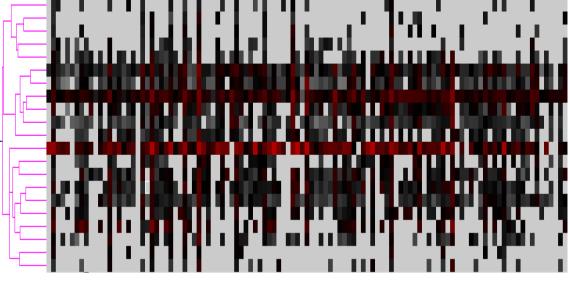
## Figure A1, continued.

Protein cluster D. A cluster of nineteen proteins derived specifically from the expression in erythrocytes



>sp|P00915|CAH1 HUMAN Carbonic anhydrase 1 OS=Hc ">sp|P11166|GTRT HUMAN Solute carrier family 2, >sp|PO2730|B3AT HUMAN Band 3 anion transport pro >sp|P69905|HBA HUMAN Hemoglobin subunit alpha O: >sp|Q13228|SBPT HUMAN Selenium-binding protein : >sp|Q00013|EM55 HUMAN 55 kDa erythrocyte membra: >sp|P48506|GSH1 HUMAN Glutamate--cysteine ligase >sp|PO7738|PMGE HUMAN Bisphosphoglycerate mutase >sp|P16157-14|ANK1 HUMAN Isoform Er13 of Ankyrii ">sp|P02549|SPTA1 HUMAN Spectrin alpha chain, e1 ">sp|P11277-2|SPTB1 HUMAN Isoform 2 of Spectrin >sp|P16452-2|EPB42 HUMAN Isoform Long of Erythre >sp|Q9Y3I1|FBX7 HUMAN F-box only protein 7 OS=H( >tr|Q5VSJ9|Q5VSJ9 HUMAN Blood group Rh(CE) poly >sp|Q9BS40|LXN HUMAN Latexin OS=Homo sapiens GN= >sp|PO8397|HEM3 HUMAN Porphobilinogen deaminase >sp|P09105|HBAT HUMAN Hemoglobin subunit theta->tr|E9PBW4|E9PBW4 HUMAN Hemoglobin subunit gamma >sp|Q8WZ42-12|TITIN HUMAN Isoform 12 of Titin O:

**Protein cluster E**. A cluster of proteins associated with the complement system and coagulation: complement components (C6, C1r, C8 alpha chain, C7, C4 beta chain, C3, C4b-binding protein, factor H, factor B, C8 gamma-chain, C8-beta chain); proteins part of or interacting with the coagulation cascade (inter-alpha-trypsin inhibitor heavy chain H1, inter-alpha-trypsin inhibitor heavy chain H1, fibronectin, prothrombin, heparin cofactor II, alpha-2-antiplasmin, coagulation factor XII, kallistatin; apolipoprotein A-II)



>sp|P00736|C1R HUMAN Complement C1r subcomponen >sp|P07357|C08A HUMAN Complement component C8 a >sp|P10643|CO7 HUMAN Complement component C7 OS >sp|P19823|ITIH2 HUMAN Inter-alpha-trypsin inhi >tr|BOUZ83|BOUZ83 HUMAN Complement C4 beta chai >sp|PO2751|FINC HUMAN Fibronectin OS=Homo sapie >sp|P01024|C03 HUMAN Complement C3 OS=Homo sapi >sp|PO4003|C4BPA HUMAN C4b-binding protein alph >sp|PO8603|CFAH HUMAN Complement factor H OS=Ho >sp|P19827|ITIHT HUMAN Inter-alpha-trypsin inhi >sp|PO2O42|HBD HUMAN Hemoglobin subunit delta C >sp|P29622|KAIN HUMAN Kallistatin OS=Homo sapie >sp|P00734|THRB HUMAN Prothrombin OS=Homo sapie >sp|PO5546|HEP2 HUMAN Heparin cofactor 2 OS=How >tr|B4E1Z4|B4E1Z4 HUMAN Complement factor B OS= >sp|PO8697|A2AP HUMAN Alpha-2-antiplasmin OS=Ho >sp|PO2652|APOAZ HUMAN Apolipoprotein A-II OS=H >sp|P07358|C08B HUMAN Complement component C8 b

>sp|P07360|C08G\_HUMAN Complement component C8 g >sp|P00748|FA12\_HUMAN Coagulation factor XII OS

>sp|P13671|CO6 HUMAN Complement component C6 OS